

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           **Claim 1 (currently amended):** A location information  
2        transmission method for reporting on-road location information  
3        on a digital map by an information transmission system,  
4       characterized in that comprising the steps of:  
5           transmitting on-road location information by an information  
6        provider reports, as, the on-road location  
7        information[[;]] including: a string of coordinates line  
8        information representing a road shape of a road section including  
9       the on-road location having a length determined depending on  
10      difficulty of shape matching; additional information including  
11      an information item selected from a group consisting of attribute  
12      information on [[a ]]said road section including said a road  
13      location of said road section and detailed information on nodes  
14      in said road section; and relative information indicating said  
15      on-road location in said road section, and that  
16           a party that receives receiving said on-road location  
17      information by a portable navigation apparatus; and  
18           performs performing shape matching to identify said road  
19      section on a digital map of the portable navigation apparatus  
20      based on the string of coordinates line information and the  
21      additional information and uses said relative data to identify  
22      the on-road location in said road section.

1       **Claim 2 (currently amended):** A location information  
2 transmission method according to claim 1, ~~characterized in that~~  
3 wherein a string of coordinates where coordinate data indicating  
4 the positions of the nodes and interpolation points included in  
5 said road section are arranged sequentially is used as said  
6 string of coordinate information.

1       **Claim 3 (currently amended):** A location information  
2 transmission method according to claim 2, ~~characterized in that~~  
3 wherein an interpolation points point that contribute contributes  
4 less to shape matching are is omitted out of from the  
5 interpolation points included in said road section in order to  
6 generate said string of coordinate information.

1       **Claim 4 (currently amended):** A location information  
2 transmission method according to claim 3, ~~characterized in that~~  
3 wherein an said interpolation point is omitted from said  
4 interpolation points where a change in bearing is less than a  
5 predetermined angle with respect to bearing from an adjacent  
6 interpolation point or node and a distance from said  
7 interpolation point or node is less than a predetermined distance  
8 ~~in order to generate said string of coordinates information.~~

1       **Claim 5 (currently amended):** A location information  
2 transmission method according to claim 2, ~~characterized in that,~~  
3 as wherein said string of coordinate information[,] comprises  
4 coordinate data of a member chosen from a group of nodes  
5 and interpolation points included in said road section, the

6     coordinate data being is—represented using absolute coordinates  
7     and ~~that~~—data of members of nodes and interpolation points  
8     excluding said chosen member, the data being is—represented using  
9     relative coordinates.

1       **Claim 6 (currently amended):**   A location information  
2     transmission method according to claim 1, ~~characterized in that~~  
3     wherein said additional information includes at least one  
4     information item chosen from a group consisting of road type  
5     code, road number, toll highway code, number of traffic lanes,  
6     regulation information, road width, number of connecting links  
7     to a crossing node, and connection angle of each connecting link  
8     to a crossing node.

1       **Claim 7 (currently amended):**   A location information  
2     transmission method according to claim 6, ~~characterized in that~~  
3     wherein said additional information includes accuracy information  
4     on relating to a digital map data used to generate the on-road  
5     location information.

1       **Claim 8 (currently amended):**   Method for thinning-out a  
2     plurality of points representing a road shape by an information  
3     transmission system, comprising steps of:

4              providing a string of coordinates defining said plurality  
5     of points;  
6              determining whether the bearing deviation,  $d_n$ , of an  
7     interpolation point,  $P_n$ , of said string of coordinates from a

8 preceding interpolation point,  $P_{n-1}$ , of said string of coordinates  
9 is smaller than a predetermined angle,  $\alpha$ ;  
10 determining whether a distance,  $g_n$ , of the interpolation  
11 point,  $P_n$ , from the preceding interpolation point,  $P_{n-1}$ , is short  
12 shorter than a predetermined length,  $\beta$ ; and  
13 omitting the interpolation point,  $P_n$ , from the string of  
14 coordinates if both  $d_n < \alpha$  and  $g_n < \beta$  as determined in the determining  
15 steps;  
16 transmitting the string of coordinates from which the  
17 interpolation point,  $P_n$ , is omitted from the information  
18 transmission system.

1       **Claim 9 (previously presented):** The method of claim 8,  
2 further comprising a step of incrementing the value of n by 1 and  
3 then repeating the steps of determining and the step of omitting.

1       **Claim 10 (previously presented):** The method of claim 8  
2 wherein each of the points is represented using relative  
3 information based on one of the plurality of points.

1       **Claim 11 (new):** A location information transmission method  
2 according to claim 1, wherein the on-road location information  
3 includes relative information indicating an on-road location in  
4 said road section, the method further comprising a step of  
5 performing identifying the on-road location in the road section  
6 using the relative information by the portable navigation  
7 apparatus.